

Application No. 10/589,028
Paper Dated: December 2, 2009
In Reply to USPTO Correspondence of June 2, 2009
Attorney Docket No. 4544-061763

REMARKS

The final Office Action of June 2, 2009 has been reviewed and the Examiner's comments carefully considered. Claims 3, 6, and 7 have been amended, claim 1 has been cancelled, and new claims 10 and 11 have been presented by way of this Amendment. Accordingly, claims 3 and 6-11 are currently pending in this application with claim 10 being in independent form. Support for the amendments can be found at page 5, line 3 to page 9, line 29 of the specification, and in original claims 1-9. Applicants respectfully submit that no new matter has been added by way of this Amendment.

Rejection Under 35 U.S.C. §112, first paragraph:

Claims 1, 3, and 6-9 stand rejected under 35 U.S.C. §112, first paragraph, because the specification as originally filed does not provide for a ladle having a 3m liquid column height, as claimed in claim 1.

Claim 1 has been cancelled. New independent claim 10 refers to the bath depth of the ladle, which is consistent with the original specification and claims, and does not mention a liquid column height. Accordingly, Applicants respectfully request that the rejection be withdrawn.

Rejection Under 35 U.S.C. §112, second paragraph:

Claims 1, 3, and 6-9 stand rejected under 35 U.S.C. §112, second paragraph, for being unclear due to the recitation of the specific numerical dimensions and speed of the cored wire, and then indicating that these parameters are determined based upon other claimed parameters.

Claim 1 has been cancelled. New independent claim 10 now recites the specific steps of determining dimensions of the cored wire and determining the injection speed of the cored wire based on several parameters. A specific numerical dimension and speed are not recited in independent claim 10, but are instead recited in new dependent claim 11. Accordingly, Applicants respectfully request that the rejection be withdrawn.

Rejection Under 35 U.S.C. §103(a):

Claims 1, 3, and 6-9 stand rejected under 35 U.S.C. §103(a) for obviousness over United States Patent No. 4,094,666 to Ototani (hereinafter “Ototani ‘666), in view of 4,832,742 to Ototani (hereinafter “Ototani ‘742). In view of the foregoing amendments and following remarks, reconsideration and withdrawal of these rejections are respectfully requested.

New claim 10 has been presented, which clarifies that the claimed process includes steps of determining dimensions of prefabricated cored wire based upon a grade of the liquid steel, the bath temperature, the size of the ladle, the bath depth of the ladle, and properties of the core wire material and determining the speed of injection of the prefabricated cored wire based upon the same parameters.

Applicants respectfully submit that Ototani ‘666 and Ototani ‘742, taken separately or combined, fail to teach or suggest the above-mentioned claimed subject matter of independent claim 10.

With regard to Ototani ‘666, this reference teaches a process of molten iron and steel refining, which utilizes a clad wire (4) containing refining additives. The wire (4) is fed into a ladle (5) containing molten metal (6). Ototani ‘666 does not teach or suggest that the dimensions of the wire (4) and the speed of injection of the wire (4) into the ladle (5) are both determined based upon the grade of the liquid steel, the bath temperature, the size of the ladle, the bath depth of the ladle, and properties of the wire material, as is claimed in claim 10. Rather, Ototani ‘666 only teaches that the injection speed of the wire may vary based on the size and material of the wire and the size of the ladle. Ototani ‘666 does not address determining both the size of the wire and the speed of injection based on all of the parameters set forth in claim 10.

With regard to Ototani ‘742, this reference teaches a flexible core wire to be injected into a molten material for providing refining additives to the molten material and is cited for the teaching of a flexible/corrugated clad wire of a certain size. Ototani ‘742 fails to teach or suggest that the dimensions of the clad wire are determined based upon the grade of the liquid steel, the bath temperature, the size of the ladle, the bath depth of the ladle, and properties of the wire material, as is claimed in claim 10. Nor does Ototani ‘742 address determination of a speed of injection of the clad wire. Ototani ‘742, therefore, fails to address the above-noted

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deficiencies in the teachings of Ototani '666 and does not reasonably suggest a modification to the clad wire injection process taught by Ototani '666 that achieves the invention claimed in claim 10 regardless of whether one of ordinary skill in the art would modify the wire taught by Ototani '666 to have the flexible clad material and size taught by Ototani '742.

Applicants submit that independent claim 10 is allowable for at least the foregoing reasons, as the prior art of record, including Ototani '666 and Ototani '742, fails to teach or suggest the claimed subject matter.

Claims 3, 6-9, and 11 are dependent upon and add further limitations to independent claim 10 and are allowable for at least the same reasons discussed above in connection with claim 10.

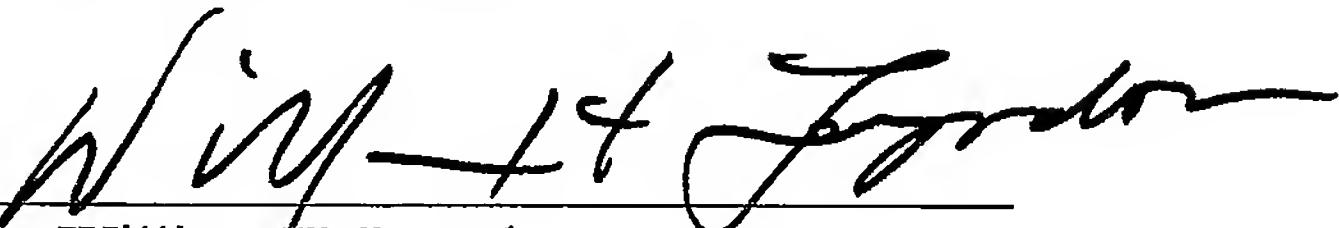
Conclusion:

In view of the above amendments and remarks, reconsideration of the rejections and allowance of claims 1, 3, and 6-11 are respectfully requested.

Respectfully submitted,

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